A. Title:

Application for Permit for Scientific Purposes under the Endangered Species Act of 1973.

Project Name:

Fish Presence/Absence Surveys within Department of Natural Resource Habitat Conservation Plan Forested Waterways: Pacific Cascade Region - Southwestern Washington.

B. Species:

Puget Sound ESU: Wild Chinook and Hatchery Chinook
Lower Columbia River ESU: Wild Chinook and Hatchery Chinook
Lower Columbia River ESU: Wild Coho and Hatchery Coho
Puget Sound/Strait of Georgia ESU: Wild Coho and Hatchery Coho
Columbia River ESU: Wild Chum and Hatchery Chum
Lower Columbia River DPS: Wild Steelhead and Hatchery Steelhead
Puget Sound DPS: Wild Steelhead and Hatchery Steelhead

C. Date of Permit Application:

May 27, 2008

D. Applicant Identity:

1. Daniel Friesz - Fish and Wildlife Biologist 3
2. Washington State Department of Natural Resources – Pacific Cascade Region
3. 601 Bond Road, PO Box 280, Castle Rock, WA. 98532
4. Phone: 360-577-2025
5. Fax: 360-274-4196
6. Email: Daniel.Friesz@dnr.wa.gov
(Principle contact is same as above)

E. Information on Personnel, Cooperators, and Sponsors:

1. Donelle Mahan is the principle investigator and will also act as a field supervisor. Noelle Nordstrom, Daniel Friesz, and Dave Gufler will be field supervisors. They all have the same address and phone number as above. Email addresses: Noelle.Nordstrom@dnr.wa.gov, Donelle.Mahan@dnr.wa.gov, and Dave.Gufler@dnr.wa.gov. Donelle has been a professional biologist for 2 years with the DNR and has conducted electroshocking and stream surveys for approximately 4

years. Noelle Nordstrom has been a professional biologist for 15 years and a Regional Biologist for the DNR for 1 year. Dan Friesz has been a professional biologist for 8 years and a Regional Biologist for the DNR for 1 year. Noelle, Donelle, and Daniel are all considered "trained and qualified" to collect electroshocking stream survey information and have a combined 6 years of electrofishing and stream survey experience. Dave Gufler is a trained stream surveyor and has been conducting electro-shocking surveys for more than 4 years. The principle investigator and field supervisors participated in a 2-day electrofishing course in September 2007 conducted by Smith-Root, Inc.

2. Donelle Mahan, Noelle Nordstrom, Dan Friesz, and Dave Gufler will be the only employees conducting these surveys. There may at times be a forester on-site observing and/or taking notes, but they will not be actively surveying with the abovementioned surveyors.

3. Please see above for contact information. Donelle, Noelle, Daniel, and Dave will conduct all proposed activities.

4. Proposed activities will not be conducted by a contractor.

5. It is not anticipated that any fish will die as a result of our work. However, in the unusual event that this does occur, the dead specimen will be left on-site unless otherwise directed by this permit. No tissue samples will be taken. This proposal is exclusively for presence/absence detection.

6. Not applicable. There will be no transportation or holding of species.

F. Project Description, Purpose, and Significance:

1. The proposed research will determine a presence/absence of fish within waterways on state lands that will dictate appropriate stream buffers and whether to replace or upgrade fish passage barriers.

The Department of Natural Resources (DNR) has an approved Habitat Conservation Plan (HCP) with the United States Department of Fish and Wildlife Services (USFWS) and the National Marine Fisheries Service NMFS), which was signed in 1997. The HCP covers all DNR-managed forest lands that lie within the range of the northern spotted owl (all of Western Washington and the eastern slopes of the Cascades), excluding those lands designated as urban or leased for commercial, industrial, or residential purposes and those lands designated as agricultural. All DNR management activities on these lands are covered.

DNR entered into this HCP to provide certainty to the trust beneficiaries of the state of Washington. It allows DNR to manage in a prudent manner, minimize the risk of loss, and using sound principles that will preserve the productivity of the trusts in perpetuity while striving to provide the most substantial support to the beneficiaries over the long term. The HCP allows the incidental take on DNR-managed lands of northern spotted owls, marbled murrelets, and other listed upland species, and, on the west side of the Cascade Range, selected other species if they become listed (i.e. salmonids). The HCP is a 70-100 year commitment.

All fresh water species of salmonids require moderate stream flows; cool, well oxygenated, unpolluted water; low suspended-sediment load; adequate food supply; and structural diversity provided by submerged large woody debris. Well functioning riparian ecosystems are necessary to satisfy these habitat needs. In support of the HCP commitment to provide these habitats, DNR must correctly identify stream types. On occasions, the use of an electroshocker is needed to accurately type these streams. The streams that are shocked are assumed to not have fish; however, on occasion, we do find various species of fish. After streams are correctly typed, then the appropriate Riparian Management Zone (RMZ) is applied. DNR has been conducting these types of surveys in various parts of the state for several years. By correctly typing these streams, resident as well as migrating fish populations will benefit by potentially having larger RMZ's.

The HCP states that the principal function of the riparian buffer is protection of salmonid habitat. The width of riparian buffers on fish bearing streams shall be approximately equal to the site potential tree height in a mature conifer stand or 100 feet, which ever is greater. This prescription should result in average buffer widths between 150 and 160 feet (many times this average is 170-190 feet). The width of this riparian buffer shall be measured as the horizontal distance from, and perpendicular to, the outer margin on the 100-year floodplain. The HCP goes on to say that for all practical purposes, stream typing will be examined or verified in the field whether they were typed before of after 1992.

2. DNR entered into this HCP to provide certainty to the trust beneficiaries of the state of Washington. It allows DNR to manage in a prudent manner, minimize the risk of loss, and using sound principles that will preserve the productivity of the trusts in perpetuity while striving to provide the most substantial support to the beneficiaries over the long term. The HCP allows the incidental take on DNR-managed lands of northern spotted owls, marbled murrelets, and other listed upland species, and, on the west side of the Cascade Range, selected other species if they become listed (i.e. salmonids). The HCP is a 70-100 year commitment with both the United States Fish and Wildlife Service and the National Marine Fisheries Service.

In order to comply with the HCP, DNR must comply with the stream typing guidelines established by the Washington State Forest Practices Board (WAC 222-16-030). Predominately, stream segments are typed using physical characteristics, such as basin acres, stream gradient, and width. However, on occasion, there are times when the stream cannot be correctly typed using those criteria. In those instances, DNR needs to have the ability to conduct electroshocking surveys to determine fish presence. The basis for this application is to be granted permission to conduct these surveys in the above-mentioned ESUs. No federal funding source will be used to conduct the proposed surveys.

3. At this time, this project will only satisfy the goals of this particular project. There are no plans to conduct long-term research projects under this proposal. This project is for site specific planning. The results of these surveys, however, will be long term. For example: If we determine by electroshocking that a stream is fish bearing, then that stream will be considered fish bearing in the future. This information is turned into DNR's Forest Practices and the Washington State Department of Fish and Wildlife (WDFW) to help establish stream typing models. The information is maintained in the database.

When a stream is electroshocked and found to contain fish, an update form is sent to Forest Practices. They then notify WDFW, tribes, local governments and concerned landowners. These people are given a 30-day comment period. After hearing no comments, the stream is entered into the database and considered a fish-bearing stream now and in the future.

4. There are no other projects similar to this project occurring on state lands. However, private landowners have the right to conduct electroshocking surveys on their property, as per WAC 222-16-030. In general we don't share this information because they are conducting surveys on streams located on their property and we are doing to the same on our property. On occasion we share the information if the stream is located on a property line or has different ownership throughout the length of the stream.

5. Our project does not intentionally target listed species. I would estimate that on average, 90-95% of the fish we collect by use of the electroshocker are resident cutthroat trout. We are not anticipating on collecting large numbers of listed species. We always use shocking as our last option. We conduct stream surveys without the use of an electroshocker first, and then if necessary, we use the shocker. Over the past five years, on average, I only shocked around 10 streams per year; however, that number may fluctuate up or down over the next few years as the DNR attempts to assess the remaining identified road blockages within SW Washington. I always try for visual

sightings prior to shocking, meaning that I watch under logs, cut banks or other habitat features first. I try using oatmeal or power bait in the slower moving pools to entice the fish. Again, shocking is only a last resort.

G. Project Methodology:

1. The dates for this proposal would be from March 1 to July 15 of each year. These dates coincide with regulations from the Washington State Forest Practices Board under WAC 222-13-030. The ending date may be extended due to weather conditions, but typically doesn't extend past August 1. Under special circumstances, if approved by Washington Department of Fish, electrofishing may be allowed after August if surveys will be conducted above natural barriers that pose no threat to salmonids while in an attempt to determine if local fish populations inhabit these isolated stream segments. Electrofishing surveys will continue for the duration of the HCP commitments. To fulfill these commitments in protecting fish habitats and allowing for access through state owned culverts, it will be necessary to document a presence/absence throughout the Pacific Cascade Region for many years to come.

2a. Electrofishing surveys will be conducted with backpack units typically using a direct current (30 Hz) ranging from 200 – 400 volts. Once a fish is detected, it will be netted, identified, occasionally photographed, and then released to a calm pool of water until it is able to swim away on its own. The fish will not be handled and no drugs will be used. Once the presence of fish is detected, the survey will cease and stream type breaks will be based on stream physicals (slope and channel width), and recommendations will be submitted for upgrading fish barriers.

2b. The sampling schedule and locations for electrofishing is difficult to predict at this time. All currently identified fish blockages will be assessed by the year 2012 and miscellaneous stream surveys are typically requested by the forester during the shocking window. On average, each individual under this proposal will electrofish around 10 stream segments a year. Electrofishing efforts will be conducted in small creeks, streams, and tributaries of Type 3 and 4 waters within the following WRIAs and counties: Nisqually WRIA #11 (Thurston and Lewis), Deschutes WRIA #13 (Thurston and Lewis), Kennedy – Goldsborough WRIA #14 (Thurston), Lower Chehalis WRIA #22 (Grays Harbor, Pacific, and Thurston), Upper Chehalis WRIA #23 (Thurston, Grays Harbor, Lewis, Pacific, and Cowlitz), Willapa WRIA #24 (Pacific, Wahkiakum, Lewis, and Grays Harbor), Grays/Elochoman WRIA #25 (Cowlitz, Wahkiakum, and Pacific), Cowlitz WRIA #26 (Cowlitz, Skamania, and Lewis), Lewis WRIA #27 (Skamania, Clark, and Cowlitz), Salmon – Washougal WRIA #28 (Clark and Skamania), and Wind – White Salmon WRIA #29 (Skamania).

2c. Not applicable – no tagging will occur with this proposal.

2d. Not applicable – no drugs will be used with this proposal.

2e. In general, the holding time is less than one minute. As mentioned previously, once the fish are shocked they are netted, correctly identified, and then placed into a calm pool of water until they are fully recovered and are able to swim on their own. Humans never touch the fish unless handled with electrofishing gloves (for photographic purposes). Collected fish are not held for long-term reasons and no transporting of fish will occur with this proposal.

2f. There will be no samples taken from any species.

3. Certain environmental conditions and annual variations in species abundance will not change the methodology of this proposal. However, it may affect certain areas within the Pacific Cascade Region that electrofishing will be conducted based on recommendations by Washington Department of Natural Resources, Forest Practices and the Washington Department of Fish and Wildlife as reported through the annual Water Level and Streamflow Forecast. For example, the December storm of 2007 caused excessive mass wasting in many waterways in the above mentioned WRIAs, and predictions were made that electrofishing surveys within these areas may be inaccurate in determining a fish presence/absence. Thus, the DNR avoided electrofishing these areas during 2008.

4. It is possible that a fish could be injured or killed while using the electroshocker. I am aware of only one resident cutthroat trout being killed during the surveys. Most of the time the fish are stunned for a minute or so and then are able to swim on their own after a brief recovery time. The rules for verifying if a stream is fish bearing or not does equate that the species has to be properly identified. Once the shocking takes place and a fish are observed, the power is shut down. Seeing a "flash" from a fish is all that is required to correctly type a stream. However, sometime by the time the fish is seen it is already stunned and needs to be netted and placed in a pool for recovery. It has been agreed through the experience of the individuals on this proposal that using a direct current at 30 Hz ranging from 200 – 400 volts does not harm the fish, but provides enough current to detect their presence. I have read and reviewed the NMFS electro fishing guidelines. DNR will abide by these guidelines while conducting electro-fishing surveys.

H. Descriptions and Estimates of Take:

See the table at the end of the proposal for species, ESUs and expected take/capture rates.

I. Transportation and Holding

This section does not apply due to the fact that no species will be transported or held. The fish will not leave the stream. Holding of fish will only be for photographic and/or for identification purposes.

J. Cooperative Breeding Program:

No fish will be captured and transported so it is not possible to participate in a cooperative breeding program. I am willing to contribute data to a breeding program if asked to do so.

K. Previous or Concurrent Activities Involving Listed Species:

The DNR has in the past had a permit for the entirety of the previously listed WRIAs. It is to my knowledge through discussions of past permit holders that no listed species have perished in the past 5-6 years due to the DNR's methodology in detecting a presence/absence of fish within trust beneficiary lands. As mentioned before, only one resident cutthroat trout has been known to perish.

L. Certification

"I hereby certify that the foregoing information is complete, true and correct to the best of my knowledge and belief. I understand this information is submitted for the purpose of obtaining a permit under the Endangered Species Act of 1973 (ESA) and regulations promulgated thereunder, and that any false statement may subject me to the criminal penalties of 18 U.S.C. 1001, or to the penalties under the ESA."

_____ _____

Signature Date

Daniel Friesz
Fish and Wildlife Biologist 3
Washington State Department of Natural Resources
601 Bond Road
Castle Rock, WA 98611
(360) 577-2025

ESU/Species and population group	Life Stage	Origin	Take Activity	Number of Fish Requested	Requested Unintentional Mortality	Research Location	Research Period
PS Chinook *Oncorhynchus tshawytscha*	Juvenile	Natural	Capture, handle, and release	10	1/10	See below	March-August
PS Chinook *O. tshawytscha*	Juvenile	Listed Hatchery Clipped Adipose	Capture, handle, and release	10	1/10	See below	March-August
LCR Chinook *O. tshawytscha*	Juvenile	Natural	Capture, handle, and release	10	1/10	See below	March-August
LCR Chinook *O. tshawytscha*	Juvenile	Listed Hatchery Clipped Adipose	Capture, handle, and release	10	1/10	See below	March-August
LCR Steelhead DPS *O. mykiss*	Juvenile	Natural	Capture, handle, and release	10	1/10	See below	March-August
LCR Steelhead DPS *O. mykiss*	Juvenile	Listed Hatchery Clipped Adipose	Capture, handle, and release	10	1/10	See below	March-August
PS Steelhead DPS *O. mykiss*	Juvenile	Natural	Capture, handle, and release	10	1/10	See below	March-August
PS Steelhead DPS *O. mykiss*	Juvenile	Listed Hatchery Clipped Adipose	Capture, handle, and release	10	1/10	See below	March-August
Columbia River Chum *O. keta*	Juvenile	Natural	Capture, handle, and release	10	1/10	See below	March-August
Columbia River Chum *O. keta*	Juvenile	Listed Hatchery Clipped Adipose	Capture, handle, and release	10	1/10	See below	March-August
PS/Strait of Georgia Coho *O. kisutch*	Juvenile	Natural	Capture, handle, and release	10	1/10	See below	March-August
PS/Strait of Georgia Coho *O. kisutch*	Juvenile	Listed Hatchery Clipped Adipose	Capture, handle, and release	10	1/10	See below	March-August
LCR/SW WA Coho *O. kisutch*	Juvenile	Natural	Capture, handle, and release	10	1/10	See below	March-August
LCR/SW WA Coho *O. kisutch*	Juvenile	Listed Hatchery Clipped Adipose	Capture, handle, and release	10	1/10	See below	March-August

NOTE: The above table predicts the maximum number of take for each species. For this table, take is defined as "killing." Research locations will vary around the Region, therefore difficult to predict exact locations. However, activities during the 2009 electrofishing season will occur within the following WRIAs: Nisqually WRIA #11 (Thurston and Lewis), Deschutes WRIA #13 (Thurston and Lewis), Kennedy – Goldsborough WRIA #14 (Thurston), Lower Chehalis WRIA #22 (Grays Harbor, Pacific, and Thurston), Upper Chehalis WRIA #23 (Thurston, Grays Harbor, Lewis, Pacific, and Cowlitz), Willapa WRIA #24 (Pacific, Wahkiakum, Lewis, and Grays Harbor), Grays/Elochoman WRIA #25 (Cowlitz, Wahkiakum, and Pacific), Cowlitz WRIA #26 (Cowlitz, Skamania, and Lewis), Lewis WRIA #27 (Skamania, Clark, and Cowlitz), Salmon – Washougal WRIA #28 (Clark and Skamania), and Wind – White Salmon WRIA #29 (Skamania).

1. The DNR avoids electrofishing areas utilized by salmonids, thus status and trend data on distinct populations listed in the table above are not closely monitored. As previously discussed and in more detail in Question 2 below, the DNR's methodology described in this proposal targets stream reaches occupied by resident and migrating cutthroat.

2. It is unlikely to take any listed species while conducting these surveys; however, it is possible. I would estimate that take would never exceed one of each listed fish species within these ESU's and their hatcheries (Steelhead, Chum, Coho and Chinook). If fish are encountered in these surveys, they will most likely be resident cutthroat trout. Electrofishing efforts are typically conducted above natural barriers as witnessed in either extensive slopes of greater than 30% that lack step pools or above bedrock waterfalls greater than 12'. Electrofishing efforts are to detect local fish populations, typically cutthroat trout, and we avoid electrofishing streams or tributaries that are characterized as fish bearing streams and/or connected to fish bearing waters without a distinctive fish barrier.

3. The DNR is anticipating on capturing and handling no more than 10 individual fish per species per ESU. With that, DNR does not expect to kill any listed fish. However, on occasion, a fish may die for various reasons. To be conservative, I estimate that we will kill no more than one fish from each species per ESU per year--at the absolute maximum. Again, it is not expected that any fish will die, but just to be on the safe side, I made a higher estimate.

4. The entirety of the above mentioned WRIAs are also within the potential habitat of bull trout. The DNR has consulted with the USFWS regarding bull trout and have received a take permit for this species to conduct scientific studies. We are also required by the USFWS and WDFW to submit annual reports of our captures and releases.